Blomidon Naturalists Society

Autumn 1996 - Volume 23 Number 3

The Blomidon Naturalists Society Newsletter is published quarterly, in January, March, June, and October, by

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"The primary objective of the Society shall be to encourage and develop in its members an understanding and appreciation of nature. For the purpose of the Society, the word 'nature' will be interpreted broadly and shall include the rocks, plants, animals, water, air, and stars." (From the BNS constitution).

The Blomidon Naturalists Society is a member of the Federation of Nova Scotia Naturalists, the Nova Scotia Trails Federation, the Brier Island Ocean Study (BIOS), and an Affiliated member of the Canadian Nature Federation.

The Blomidon Naturalists Society is a registered charity. Receipts (for income tax purposes) will be issued for all donations.

Contents

Notes from the Editor

The autumn issue is one of two special issues on the Blomidon peninsula. The regular newsletter features are here, and we have birding with Bernard Forsythe, beachcombing with Sherman Bleakney, and experiencing the tides of the Minas Channel with Roy Bishop, all showing us how special the peninsula is.

Thanks to the writers, and to Merritt Gibson, who selected the topics and writers and "encouraged" them to get it in on-time.

The other special feature is obvious. A watercolour by Keshena Eaton graces the cover. Thanks go to her and Phil Taylor, production, and Glenn MacDougall of Acadia for assistance in what at first seems easy (relatively) but is not so straightforward. Thanks also to the other illustrators, Mary Pratt, Cheryl M. Frail and Fred Scott.

The deadline for the Winter issue is JANUARY 10, 1997.

BNS FALL AND WINTER PROGRAMME, 1996-1997

MONDAY EVENING MEETINGS

Unless otherwise noted, meetings are held on the third Monday of the month and start at 7:30 p.m. at Acadia University in Room 244 in the Beveridge Arts Centre. All meetings are open to the public and BNS members are encouraged to bring friends and neighbours

21 October. Banding Songbirds. This past summer, ROBERT EMERSON worked in California with the Institute for Bird Populations banding songbirds. Robert will tell us all about this interesting project and the results.

18 November. You might think that lichens are not really that important in the scheme of things, but you would be wrong! *Lichens in Relation to Human Activity*, the title of this month's talk, by DR. DAVID RICHARDSON, of St. Mary's University, Halifax is sure to be fascinating.

16 December. At a fall meeting in 1994, BRANIMER GJETVAJ kept us enthralled with a talk about his saling trip to Greenland. In June, Branimer made a whirlwind tour of the plains, badlands, foothills, and mountains of Alberta. His presentation, *The Natural History of Alberta*, should be a winner. Branimer will also give us an update on the activities of the Nature Conservancy of Canada.

20 January. JIM WOLFORD has also been travelling. Ever in search of interesting aspects of natural history, Jim recently explored the northern coasts and islands of the British Isles by sea. The words and pictures of Jim's *Celtic Quest* will expose us to a wealth of information about that rugged part of the world.

17 February. Have you been hiding your natural history light under a bushel? This is the night to let it shine. Our annual Member's Night is held in Patterson Hall (Biology), room 308. Bring, show and tell. Display tables, screens, and projectors, as well as TV/Video machines will be available. Items of interest, pictures and slides, and artwork relating to natural history are welcomed. You don't have to tell if you don't want to. If you haven't anything to show, come anyway.

Announcements

KINGS COUNTY COMPOSTING PROGRAM

Recycling yard and kitchen wastes through composting can reduce the waste stream by 30%. The Municipality of Kings and the Towns of Kentville, Wolfville and Berwick have decided to conduct a backyard composting education program. Workshops will be held, and demonstration sites constructed. For information telephone the Kings County Composting Hot-line at 678-1049.

NEW NEWSLETTERS

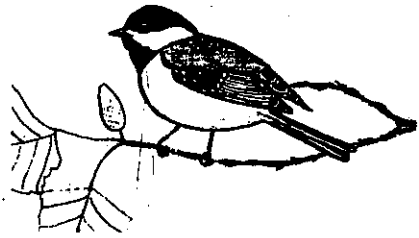
BirdWatch Canada is the official newsletter of Bird Studies Canada (BSC), formed under the auspices of Long Point Bird Observatory in November 1994. BSC exists to increase our knowledge of avian population dynamics and understanding the underlying reasons for population changes in Canadian birds, and to provide information directed at the conservation of Canadian birds and their habitats. A number of non-governmental and governmental organizations with an interest in conservation of birds are involved. For more information contact

> Bird Studies Canada at P.O. Box 160, Port Rowan, Ontario, N0E 1M0 or
> telephone 519-586-3531.

It started with the Western Hemisphere Shorebird Reserve Network. Now Wetlands for the Americas has merged with two other organizations to become Wetlands International. Wetlands require a collective, collaborative approach if efforts for their conservation are to succeed. Global partnerships and programs which build local capacity and regional autonomy are the focus of Wetlands International - the Americas. The full-colour, attractive and informative newsletter called, not suprisingly, *Wetlands*, is available from

> Wetlands International - the Americas
> Suite 200
> 7 Hinton Avenue North
> Ottawa, Ontario, K1Y 4P1
> telephone 613-722-2090
> amwethab@web.apc.org.

BIRDING BLOMIDON
by Bernard Forsythe



The sharp rapid notes of a bird song came from low bushes between a field and the road, just past the gate to Blomidon Park. I might have passed it off as a Chipping Sparrow, however, the tone was not quite right, so I began to "spush" the bird out. Instantly, a Common Yellowthroat popped out to an exposed perch and repeated this unusual song. Birdwatchers soon learn that sometimes birds will sing songs unlike the usual ones described in the field guides. A look at A. C. Bent's "Life Histories of North American Wood Warblers" revealed an account of this seldom heard Yellowthroat song.

An outing in the Blomidon area will, at the least, turn up something of interest for the birdwatcher year-round. To find the greatest variety of species, one needs to visit the various habitats that can be found at this end of the North Mountain. At the base of the mountain are farm fields and orchards bordered with shrubs ideal for edge loving birds. A few species that nest here are Alder Flycatcher, Yellow, Chestnut-sided, and Redstart Warblers, Cedar Waxwing, Goldfinch, Song and Savanna Sparrows, and occasionally Kingbirds. The steep slopes of the mountain are covered with mixed stands of coniferous and deciduous trees. In some areas the forest floor is bare, while nearby there will be low ground cover. The hiking may be difficult, but the birding can be rewarding with Ovenbirds on the ground and Blackburnian Warblers at the tops of the conifers, and species favouring the middle heights in between. Veery and Hermit Thrushes frequent the low ground cover below the trees, while Pewees and Red-eyed Vireos like the taller hardwood stands.

The fields next to the camping area in the park have scattered spruce trees where it is not uncommon to find Chipping Sparrows, Purple Finches, and Red or White-winged Crossbills in

the same trees. The hiking trails behind the camping area are always worth a look. Boreal Chickadees and Gray Jays are present year-round, and the rapid tinkling song of the Winter Wren will be heard during the summer. In season, a few species of shore birds will feed on the mudflats below the cliffs, while loons and ducks, such as eiders and scoters, may be spotted in the Minas Basin, from the fence at the edge of the cliffs.

It is well-known that migrating land birds follow the North Mountain range making spring and fall a good time to explore Blomidon. Spring is best for warblers. If one is lucky enough to be there during an arrival time all our resident species can be found, plus there is a good chance of seeing rarities. Fall is the time to watch for birds that use the thermal updrafts along the face of Blomidon. Red-tailed and Broad-winged Hawks will soar in great circles. Other raptors can be seen, including the occasional Peregrine Falcon which may be one of the birds recently released at Blomidon.

My favorite has to be the raven. They are super fliers and will play for hours in the updrafts, often teasing the Red-tailed Hawks. Fall and winter is courting time for the ravens. Pairs will be seen performing aerial rolls and somersaults with the male following the female. They often seem to be having fun, showing off their flying skills. Most birds do not have time for playing.

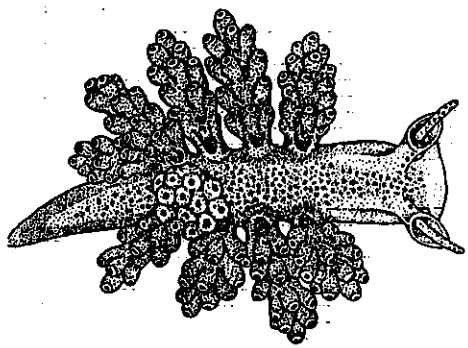
In late fall many flickers feed around the open fields at Blomidon Park. This woodpecker, with its cumbersome flight and large white target on its rump, will be chased by Sharp-shinned Hawks and Merlins. It is fortunate that they have up to ten young, as loss to predators is high. A visit in winter is also interesting. The park is a good place to find Pine Grosbeaks, Crossbills and other winter finches.

On the morning of July 13, 1996 I spent two hours birding Blomidon. My first stop was by the gate to private property, half-way up the steep road to the park. As I parked a Canada Warbler sang beside me. Next a Mourning Warbler flew out of the bushes when I closed the car door. After ten minutes at this site I saw or heard Swainson's Thrush, Solitary Vireo, White-breasted Nuthatch, Cedar Waxwing, White-throated Sparrow, Parula, Redstart, Northern Waterthrush, Black-and-White, Black-throated Green, and Magnolia Warblers. There is a huge

area along the park boundary that was clearcut a few years ago. The usual pincherry, raspberry and other shrubs that invade clearcuts have worked their way up through the brush piles. Thinking this habitat was worth a look, I turned off the park boundary line and forced my way into the brush. In no time a pair of Mourning Warblers was scolding me. Then I heard five Mourning Warblers singing within a small section of the cut. But the best was yet to come. From an area where the shrubs were shorter came a pleasant song similar to the song of a Purple Finch. Skulking in a bush was a Lincoln's Sparrow. A bit farther on a pair of Lincoln's Sparrows began scolding me with green worms in their bills. There were at least three more Lincoln's singing in the small area I explored. This shy sparrow had not previously been reported from Blomidon. My tally during the two hour outing was a satisfying forty species of birds.

There will be days, as with birding anywhere, when things will be slow. However, Blomidon has lots to offer any birder year-round. Don't forget to get off the beaten paths. What other bird is old Glooscap hiding, that will lift the spirits of those who take the time to explore and enjoy?

BEACH COMBING AT BLOMIDON
by Sherman Bleakney



Doto onusta

Of all the intertidal areas in Minas Basin, the Cape Blomidon shore is unquestionably the most picturesque, most biologically diverse and most accessible. It has everything: a parking lot, picnic tables, changing cubicles, toilets and even stairs to the beach. What more could you want? Knowledge, that's what! Are you a mud moron? Well, then, flex your neurons, stretch your mind. Try elevating your awareness and deepening your appreciation of

what lies beneath your callused (pedalogically speaking) sole as you traipse the intertidal. Did you just pick up one of those deeply curved, rasp-surfaced clam valves so common at Blomidon? Could you tell it was 700 or 800 years old and that the equally common slipper limpet in your other hand died but weeks ago? How could that be, you ask? It's a long story, about 1,000 years long in fact. But first some essential background information.

The Blomidon area is unusual in that the shore consists of exposed layers of slightly tilted sedimentary shales, capped at the top of the red cliffs by layers and layers of lava flows. From this layer cake, times and tides have created three fascinating beach comber habitats along the shore from Delhaven to Cape Blomidon.

Habitat One is the most obvious, the various soft silts of sand and mud created by erosional forces. All kinds of interesting animals are hidden in burrows and tunnels in this medium, some at densities of tens of thousands per square metre.

Habitat Two is the firm sedimentary terraces of exposed shale forming long intertidal pools at low tide. Many different algae and sessile animals attach to this surface, including immense beds of kelp and dulse that are exposed only at extremely low tides. This is such a gentle wave-washed shore that large kelp blades are rarely swept ashore.

Habitat Three was formed from the lava layers atop Blomidon. Basalt blocks have tumbled down the cliff faces and formed great slopes of rocks and boulders directly beneath the Cape. Their upper exposed surfaces have a silvery-gray coating of barnacles. The sheltered undersides of these heavy stable rocks become coated by totally different creatures. In winters past and present, ice blocks have transported many of these rocks all about the Minas Basin, and deposited them on the mud flats, and in the terrace pools where they form wonderful little oases of rock dwelling plants and creatures.

Judging from the marine fauna at Cape Blomidon, there must be some influx of cold Fundy water along this shore, for only here can you find Green Sea Urchins, Blood Stars, Brooder Sea Stars, Giant Scallops, Ten-ridged Neptune whelks and the like. Oceanographically, Minas Basin waters are described as surg-

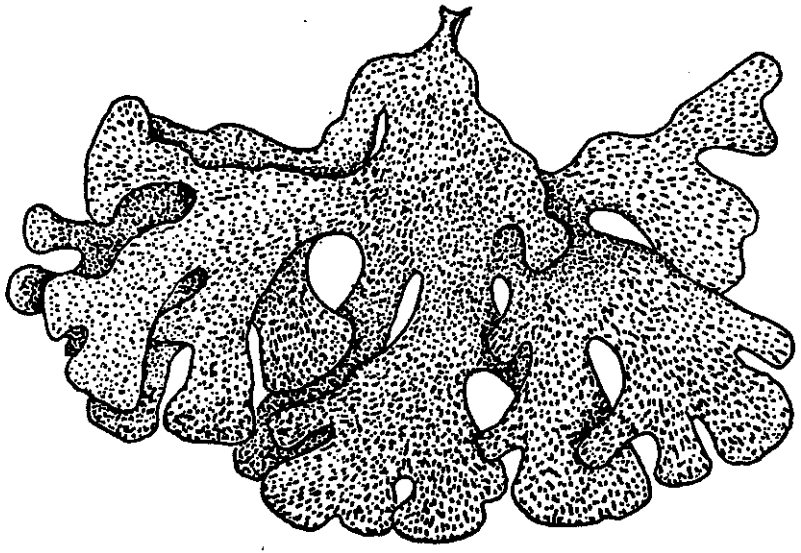
ing back and forth through Minas Channel at each tidal cyde, with very little mixing with Bay of Fundy waters. The muddy brown ice blocks along Basin shores in winter support this concept, but occasionally a crystal clear green ice block arrives from around the Cape Split corner and strands on the beach at White Waters picnic area, substantiating the suspected source of these additional species.

Before we continue exploring the Minas Basin side of Blomidon, Scotts (Scots) Bay on the Fundy side deserves brief mention. Its rocky north shore has the standard interesting rock pools and boulders with moist overhangs and little caverns, but it is the great curving beach that dominates the Bay. Behind that immense barrier beach is a typical tidal marsh with creeks, and an atypical parking lot, tables and toilets. Over hundreds of years of rising sea levels, that barrier beach has been inexorably creeping landward and up slope. At low tide, portions of an ancient forest that was engulfed long ago are now being exposed on the sloping seaward flank of the beach wall. An equally ancient Soft-shelled Clam bed is also being revealed. Further out, during extreme low tides, an immense expanse of firm rippled sand is exposed and upon which one can stroll for miles. During my last such foray, there were dozens of large clusters of gelatinous fingers - unmistakably egg masses of squid. This cold-water, storm-exposed habitat is quite different from the protected Minas Basin shoreline of Blomidon, and biologically it is essentially unexplored. The one Acadia summer survey, about 20 years ago, discovered three unusual organisms on those sand flats. One was the first local report of Conrad's Thracia (*Thracia conradi*) a deep-water clam with fragile valves about 4 inches (10 cm) long, that lives flat on its side 6-8 inches (16-20 cm) beneath the sand surface, and reaches the surface to feed solely with its long thin siphons. Another was the giant solitary hydroid *Corymorpha pendula*, a 5 inch (13 cm) "hydra" with a head as large as your thumb and root-like filaments that anchor it in the shifting sands. The third organism was an undescribed sea slug of the genus Coryphella which was feeding on the giant hydroid. These two associated species had previously been dredged in the Gulf of Maine at depths below 20 metres.

Beach Combing Basics:
Beach combing is fun, challenging, and great exercise. Start at the strand line, discover what has washed up, then follow the

tide as it recedes, either (1) across the soft silts and muds to the west of the Blomidon Park stairs, or (2) across the shale terraces east of the stairs, or (3) explore the rock piles below Cape Blomidon itself, or best of all, (4) experience the unique kelp beds anywhere along this shore during those two peak months each year of really extreme low tides. Consult your annual tide table book, and plan ahead.

As an aid to identification, obtain a copy of *Keys to the Fauna and Flora of Minas Basin* by Bromley and Bleakney. It covers everything from sponges to fish, as well as marine algae and shoreline flowering plants. (The book is available at Earthwhile Pursuits, in Wolfville.)



Flustra foliacea
Bushy ectoproct colony

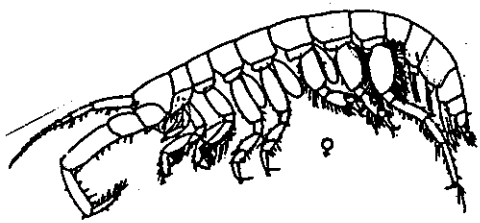
1. Strand line: After every tide, there remains a high water strand line signature of animal, plant and human products. This is always interesting to explore, especially after a storm when it provides a window on what is normally hidden beneath the silts or beyond low water. And you can usually find something new to you because in Minas Basin there are about 58 species of snails and 34 kinds of clam shells. As well, crustaceans shed their exoskeletons as they grow, so you should look out for cast-offs from the seven species of crabs. Actually, there are over 90 species of crustaceans reported from Minas Basin, but

half of those are tiny "beach fleas" (or sand hoppers).

Also washed ashore are dried egg cases of unusual shapes, varying from those individual, square, black, skate egg cases ("Mermaid's Purse"), to the compound, multiple chambered, concertina spiral of the whelk eggs. Most conspicuous of all are the dead, dry, odorless, bushy, beige pompoms that are the leafy skeletal colonies of thousands of minute tentacled animals belonging to the phylum Ectoprocta (also known as Bryozoa). This animal colony lives beyond low tide, it smells strongly of citronella when alive, and its defensive array of antibiotics is of great pharmaceutical interest.

And then there are those stranded items that are big enough to trip over: sharks, sunfish, porpoises, whales, and once at Blomidon I found a deer that had fallen from the cliffs above.

2. Intertidal: When you follow a receding tide across the sands and silts, note that these surfaces are perforated by numerous and varied holes. Each opening represents animal activity, typically by a worm, crustacean or clam. With over 90 species of marine worms reported from Minas Basin, and all of those previously mentioned clams and crustaceans, can you imagine the challenge of compiling a field guide to those hundreds of different intertidal orifices? So, until someone writes a "Field Guide to Tracks, Trails, Tubes and Tunnels of the Intertidal," you are on your own.



Corophium volutator
Tube-dwelling shrimp

With a shovel, you can pry these soft silts upwards and expose a cross section, revealing worm tubes and tunnels from minuscule to finger size. The U-shape surface burrows are of the amphipod shrimp Corophium, so important to migratory shore birds. Other holes lead down to a layer of the Little Macoma

clams, and further below that a layer of large edible Soft-shelled Clams, the ones that often squirt water from the largest surface holes, as you approach.

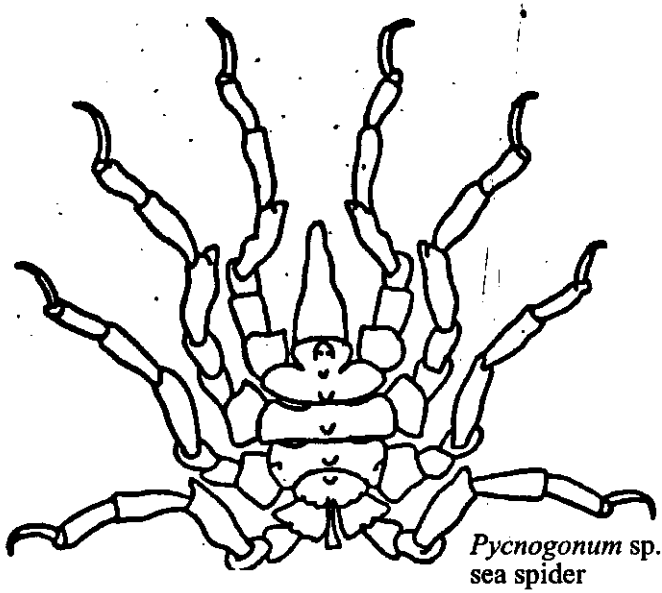
The further out you go towards the lowest tidal levels, the more species there are, including (just to wet your appetite to explore) hydroids and their beautiful sea slug predators, unusual burrowing sea anemones, naked burrowing sea cucumbers, and acres of sandy sea bottom cemented together by a little worm with a face like a walrus, named *Sabellaria vulgaris*.

3. Cape Blomidon Barnacle Boulders: For much of the tidal cycle, the carpet of intertidal barnacles on this rock pile is exposed to the air, not the sea. Yet these little crustaceans obtain enough food in those brief hours of submergence for millions of them to grow and reproduce, and thereby inform us that there is more in murky Minas waters than mud.

Beneath those rocks are barnacle killers in the form of Atlantic Dogwinkle snails and Chocolate-chip Sea Slugs (*Onchidoris bilamellata*). If you closely examine patches of empty barnacle cones (=eaten), you can find other small creatures sheltering there.

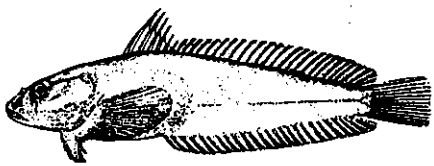
At this habitat, rock and boulder sit atop one another, and when the tide recedes their interstices form a catacomb of damp passages and cool chambers where crabs and even fish, such as the eel-like Rock Gunnell, can survive in air for hours. Very little leafy algae grows on these rocks, but microscopic algae do, and upon these plant films does the Common Periwinkle graze. Slimy and calcareous ectoproct colonies coat the rock undersides and this attracts several species of dorid sea slug predators. Of course, the nearer to low tide level, the more varied will be the surprises beneath that next boulder.

4. Terraced Shale Pools: Here, attached to the shale ridges and to the scattered basalt rocks, are many species of algae, sponges, hydroids, ectoprocts, tunicates, anemones, starfish (a small species that broods its young in its mouth!), crabs, shrimps and most interesting of all, the dorid, aeolid and dendronotid sea slugs. [For more information purchase my forthcoming, *Field Guide to Sea Slugs of Atlantic Canada and Gulf Of Maine.*]



Pycnogonum sp.
sea spider

The scattered rocks in these terraced pools can usually be rolled over and you could easily devote a half-hour thoroughly examining just one of these. There is a dominant community pattern applicable to most of these rocks: barnacles on the top; various algae along the upper sides; sponges and hydroids on the lower sides; and ectoprocts and tunicates beneath. Each zone of these sessile organisms has many active animals associated with it: flatworms, nemertine worms, nematodes, polychaete worms, pycnogonids, sea spiders, crustaceans, snails, sea slugs, starfish, brittlestars, and even fish with suction cups on their tummies (the North Atlantic Sea "Snail"). Each rock supports an assemblage of complex communities, and to ensure their continued existence it is vital that, after your examination, you return every rock to its original position.

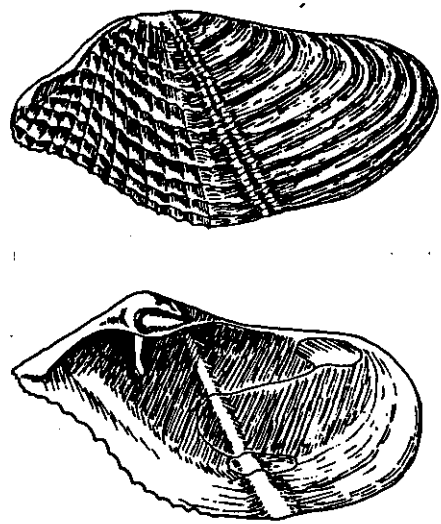


Liparis atlanticus
North Atlantic Sea "Snail"

Life is on the surface here, because nothing can tunnel and hide inside rock; well, almost nothing. The exceptions are specialized clams of the angel wing and piddock group. When young they settle on and penetrate rock surfaces, and then drill deeper and deeper as they grow larger and larger. Thus, after a brief life span of about 8 to 10 years, the eight inch (20 cm) deep burrow consists of a bottom chamber that is only slightly larger than the two rough, rasping, rounded valves, and this space tapers gradually to a small opening at the surface. Those valves are then entombed in that rock chamber until the rock erodes away to that depth, requiring hundreds of years, which in turn gets us back to that first beach shell you picked up, in paragraph one.

At very low tides, you should notice thousands of perfectly round holes in the shale, of many different diameters. These are the cone shaped domestic shafts of the large Great Piddock (*Zirphaea crispata*) at various stages of erosion. Radiocarbon dating of piddock valves still trapped in these burrows gave readings of from 380 to 865 years of age. The valves look like new because the burrows fill with silt and this pads and protects. The original occupant of any rasp-surfaced shell found on Blomidon beach today probably died of old age 400 years before Europeans first sailed into our Minas Basin. Imagine, 800 years of tides, storms and ice to finally free that exquisite white biofragment of rock drilling equipment, and deposit it at your feet.

There are populations of Great Piddock clams living in these Blomidon shales today, not to be released onto the beach until the latter half of the next millenium. Do you think it possible that, about the year 2696, there will be BNS naturalists there to greet them?



Zirphaea crispata
Great Piddock

MINAS CHANNEL

by Roy Bishop

The Blomidon peninsula owes much of its special character to Minas Channel, the large currents of which are driven by the tides of Fundy. The Bay of Fundy has the highest tides on Earth, and the influence of these tides upon the climate and the biology of the Bay is profound.

The upper end of Fundy splits into two arms. The northeasterly arm is Chignecto Bay; the easterly arm is composed of Minas Channel and Minas Basin. The high tides peak in these arms, but because Earth rotates counterclockwise in the Northem Hemisphere, as an incoming tide flows up the Bay of Fundy, Minas Channel rotates directly into its path, resulting in higher tides in Minas Basin than in Chignecto Bay. Oceanographers label this *the Coriolis effect*, an obscure term for apparent deflections resulting simply from the rotation of the ground beneath a moving body.

As the tide flows into Minas Channel it encounters two barriers in succession, the first forcing it to the right, the second forcing it to the left. The first barrier is Advocate Bay with its rugged end, Cape d'Or. The second is Scots Bay with its equally formidable promontory, Cape Split. On a flood tide, heavy rips occur in the vicinity of Cape d'Or and Cape Split. The tidal currents can exceed 8 knots, and the turbulence near both capes is extremely dangerous for small boats. On the ebb ride, waves generated by the prevailing westerly winds are often focussed by the currents, again producing treacherous seas. One hundred and sixty years ago, the scientist Abraham Gesner, a native of Kings County, wrote in his 1836 book: *Remarks on the Geology and Mineralogy of Nova Scotia*:

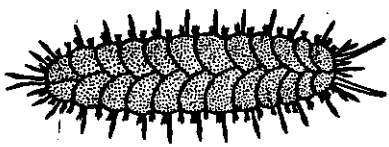
> "[Cape Split] affords a most sublime, and often terrific spectacle. Over the submarine cape, the tide rolls in a frightful fury; its extent is known by a long chain of white breakers, that even in calm weather, after the tide is turned, are thrown upwards into foaming curls, which may be seen at a distance of twenty miles, accompanied at high spring tides with a bellowing noise, like that produced by the distant firing of cannon. This Charybdis, which in a gale is almost unequalled in any country, is called 'The Rips'. It has been the grave of several vessels, and is shunned by all prudent pilots in the Bay."

The Blomidon peninsula further constricts Minas Channel, the narrowest point occurring between Amethyst Cove and Cape Sharp (5 km in width). All the water which drives the highest tides on Earth, in Minas Basin, flows through this constriction.

The low-to-high range of a spring tide in Minas Basin is approximately 15 metres. The area of this basin is about 1200 square kilometres, which means that 1200 x 0.015 = 18 cubic kilometres (about 18 billion tonnes) of sea water pass between Amethyst Cove and Cape Sharp in a six-hour period. The average flow is 18 ÷ 6 = 3 cubic kilometres per hour, or near 5 cubic kilometres per hour peak current at mid-tide. This is the same as the estimated combined current of all the rivers and streams on Earth, about 4 cubic kilometres per hour (e.g. see *Scientific American*, Sept. 1989, p.80, or *Physics Today*, Nov. 1994, p.45).

At the Amethyst Cove/Cape Sharp constriction, Minas Channel is nearly 100 metres deep, as deep as the Bay of Fundy mid-way between Saint John and Digby! Assuming an average depth of 65 metres and width of 5 km, the 5 cubic kilometres per hour peak current corresponds to a speed of 5 ÷ (5 x 0.065) = 15 kilometres per hour (8 knots), more than sufficient to scour the deep channel clean of any sediment.

The next time you are on the Cape Split trail on a still day near mid-tide, pause for a moment at one of the overlooks and gaze across Minas Channel toward Cape Sharp on the Parrsboro shore. The unearthly, barely audible whisper emanating from the water rolling past is the voice of a current equal to the combined flow of the Nile, the Amazon, the Mississippi, the Yangtze, the Congo, the St. Lawrence, the Ganges, the Volga, . . . all the rivers and streams on Earth! Closer to Cape Split, the hollow roar of the tidal rip dominates, as this immense current churns over the submarine ridges below. We in Kings County live beside one of the wonders of the world. Minas Channel deserves to be more widely known.



Scaly polychaete worm

NATURAL HISTORY NEWS

FIELD TRIP - AUGUST 3, 1996 – SHOREBIRDS
by Jim Wolford, Substitute Trip Leader

The weather-gods smiled on us with a very nice, sunny and warm day, but only eight participants showed up at the Windsor Tourist Bureau. In recent years it has been a good spot to see foraging sandpipers and plovers.

Before I summarize the outing, I'd like to acknowledge the scouting help from Don Sam, who was doing observations of feeding and roosting shorebirds for the N.S. Department of Natural Resources.

Unfortunately, whoever picked the meeting-time was perhaps distracted at the moment, for high noon this day was almost five hours before high tide. Also the time of the month was a bit problematic, since the lunar phase and distance combined to produce dramatically low low tides and, more importantly, high, high tides.The shorebirds get much more exposed mud for feeding, but the "beaches" that are roosting sites get flooded at high tide and the birds have to fly inland to find open fields.

I decided that our first "activity" would be lunch at the Tourist Bureau. During lunch, I passed out new brochures from Environment Canada on Fundy shorebirds, showed some bottles of preserved critters of the mud-flats, and talked a bit about the breeding biology and migrations of the semipalmated sandpiper, the main species we would be seeing.Then we went up on the adjacent dyke and started viewing shorebirds on the Causeway mudflat. We also walked part-way across the Causeway (highway no. 1). Peter Hope spotted one or two soaring bald eagles and wondered about the effect on the behaviour of the shorebirds.

There were scattered flocks of "peeps" or "semis", i.e., semipalmated sandpipers and semipalmated plovers, that were alternately flying around and feeding as the tide was rising. (When the tide is nearly high, large numbers of peeps feed very close to the Causeway.) Also seen were a few willets, a small flock of black-bellied plovers, 20 ring-billed gulls, 20 black ducks, and 3 double-crested cormorants. I also pointed out my tracks on the mudflat from

recent "scouting" for this field trip.

We formed a six-car caravan and drove to my next planned location, locally known as "Penny Beach" at Avonport, where we should have seen more feeding and flying peeps and could have experienced some mudflat critters (i.e. peep food). However, a new road-construction crew prevented us from parking there. Therefore, most of us drove on (we somehow lost one car) to Evangeline Beach north of Grand Pré. Our destination was a spot a bit east of the Evangeline Beach canteen and campground. I had forewarned three cottage-owners and we were allowed access to the shore. Thanks are owed to the Bearnes, Sacoumans, and Woodworths for their generosity.

It was still two hours before high tide when we arrived there. With a small flock of peeps we saw a ruddy turnstone (poorly) and a black-bellied plover. Since we could see a large "gray carpet" (roost of peeps) well east of us on the beach, we descended some steps and then walked toward Boot Island to get closer.

We did get quite close to this large group. Among them was a single dunlin that still had a red back and black belly-splotch, and 2-3 white-rumped sandpipers, which are bigger than most peeps and have swept-back wings that extend well beyond the tail while standing. We didn't see any birds of prey, although my recent scouting trips had found a peregrine falcon and a merlin (pigeon hawk), both of which habitually hunt shorebirds.

The incoming high, high tide literally chased us off the beach. The field trip disbanded, and Jean Leung kindly invited us to her nearby home. As she and I were enjoying tea and cookies on her shaded porch (very welcome), we could see a flock of peeps wheeling in flight over the dykeland fields.

P.S As I'm writing this in early September, I've just learned from Sherman Williams that large numbers of shorebirds sometimes roost in the currently active gypsum quarry along the road to Poplar Grove (northeast of Windsor).
And, I was the substitute leader for Sherman Boates.

FIELD TRIP - August 17, 1996-BNS WALK TO LITTLE RIVER FALLS
by Ruth Newell - Trip Leader

Fourteen people ventured forth on a warm and sunny Saturday in August to look at the plants, birds and scenery along the way to, and at Little River Falls. Right at the beginning of the trail, beside the Sunken Lake Road, there is a small grassy clearing. Here various species of Goldenrod (Canada, Lance-leaved, Silverrod) were in flower as well as the ever present Knapweed, also known as Star Thistle or German Aster, as one of the participants informed the group. Another conspicuous plant in this clearing as well as along the trail was the Dark Green Bulrush (*Scirpus atro-virens*) which was perhaps one of the taller of the plants present. Fleabane was also flowering, a plant never known to have had much effect on fleas. Another common plant of our area, Spreading Dogbane, was much in evidence.

Enroute to Little River Falls, the trail tends to be fairly damp. As a result, there are lots of moisture-loving plants to be found including Meadow-rue, Tear-thumb, Swamp-candle, Meadowsweet, Interrupted Fern, willow, Bulrush, Iris, sedges, rushes, St. John's-wort, Water Pennywort, Agrimony, Sensitive Fern, and various grasses. Indian Tobacco, which I seem to notice more and more of every year, was thinly scattered along drier parts of the trail. Two plants of the Slender Ladies-tresses were discovered in an open dry area. This was one of two orchids that we saw on the walk. Various trees spotted off the trail early on, were White Ash, four different maples (Sugar, Red, Mountain and Moose), Balsam Fir, White Pine, Spruce, Poplars, Beech. An impressive Pagoda Dogwood of tremendous height was observed at one spot.

One very common shrub observed along the trail edges was the Beaked Hazelnut with its distinctive 1-3 pronged, bristly fruit hidden beneath its branches. Smaller woodland plants included the ghostly Indian Pipe, Clintonia, Wild Lily-of-the-Valley, Bunchberry, Wild Sarsaparilla, One-flowered Shinleaf, False Solomon's Seal, Twisted Stalk, Purple Trillium, Pink or Common Lady's-Slipper, Twinflower, Partridgeberry, Teaberry, Starflower, Lion's Paw, Goldthread, clubmosses,

Beech Fern, New York Fern, Christmas Fern, and Lady Fern.

As we drew nearer our destination, we found ourselves in mature, rich, mixed woods. At this point we left the main trail and followed a path that led us directly to a cliff overlooking the falls. Our pace had quickened dramatically by this time as lunch time had long since arrived. We did manage however, to note a few of the interesting plants as we zipped along. On the way down the steep path from the bluff above the falls to the falls site we discovered a marvellous specimen of the American Spikenard. This is a plant related to the common Wild Sarsaparilla and Bristly Aralia (all of the Ginseng Family). Spikenard however, is considerably rarer than its two cousins, being restricted to calcareous or rich woods and ravines. Two members of our group pointed out an ancient Yellow Birch of tremendous size. The fern, Rock Polypody, is much in evidence here, covering the tops of boulders like green toupees. Hobblebush, one of the more beautiful woodland shrubs that we have in Nova Scotia (in this leader's opinion) is also to be found in this area. Related to Wild Raisin and Highbush cranberry, this plant has large, round opposite leaves and an unusually large, cinnamon-colored terminal bud. In June, these plants display large, flat-topped clusters of white flowers. The outer circle of flowers are showy but sterile serving to attract would-be pollinators while the inner flowers are small and fertile.

A pleasant lunch was had as we sat around the dark pool at the base of the falls drinking in the natural beauty of the area. We then proceeded back to the vehicles well refreshed for our outing. Two words of caution about this walk. First, the path from the main trail to the bluff above the falls is little travelled and poorly marked. In other words, it is easy to lose track of the track! Second, the path from the bluff down to the falls is fairly steep and care should be taken as one descends.

BNS SUMMER - EARLY FALL1996 BIRD SIGHTINGS

by Richard Stern

RED-TAILED HAWK - An individual that appeared to be this species, but with rusty throat and breast, and dark belly and tail, at Lower Canard early July - possibly one of the dark western races (BLF).

AMERICAN KESTREL - A group of 4 immature plum-aged birds was seen flying around some houses and a group of trees at Middle Dyke 14 July (RBS), presumably representing a recently fledged family group.

PEREGRINE FALCON - One flew over Harris's Pond, Canning on July 11 (rather early for a migrant), but didn't seem to bother the dabbling Blue and Green-winged Teal there. (RBS). PH saw two chasing shorebirds at Evangeline Beach August 9.

SHOREBIRDS - BLF found some early migrants, including several **SHORT-BILLED DOWITCHERS**, on a newly drained mud-flat at Methals Bog on July 13. A lone **GREATER YELLOWLEGS** was at Harris's Pond, Canning July 11 (RBS). There were several thousand **SEMIPALMATED SANDPIPERS**, together with a few **WHITE-RUMPED SANDIPERS** and **WILLETTS** at the Windsor causeway by 21 July at mid-tide, but Avonport Beach seemed empty (RBS, AAM, BLF, JP).

BARRED OWL - BLF raised eight broods in his nest boxes in the woods around theWolfville area this year. A pair annoyed the Tufts on the Ridge Road by hooting continually in July, and a pair hooted frequently in Kentville behind RBS's house, also in July.

SHORT-EARED OWL - A pair hunting over Canard Dyke, late June, after a field (and possibly their nest) had been ploughed (MAG).

COMMON NIGHTHAWK - Several over Aylesford Lake, at dusk, first week in July (RBS). A more significant movement, of approximately 30 birds, occurred over Tremont, 10 August (SLH).

EASTERN BLUEBIRD - Single female at Burns Rd., and nearby Methals Bog, early July (BLF), and a male not too far away near Sunken Lake at the end of Sept. (also BLF).

SWAINSON'S THRUSH -

Both BLF and RBS heard what they felt were good numbers singing in various woods in the area in mid-July.

NORTHERN MOCKINGBIRD - Nest with young in Port Williams, early July (BLF, GF). Two birds were together just north of Kentville 26 July (RBS).

MOURNING WARBLER - BLF found at least six or seven singing individuals in some scrub growing in a cut-over area below Blomidon Provincial Park in mid-July. This is one of the more reliable places in Kings county for this species, but these numbers seem to indicate a thriving population there.

LINCOLN'S SPARROW - BLF found definite evidence of breeding this summer, in the Methals bog, where singing individuals are well established, and a second small colony below Blomidon Provincial Park, in mid-July.

BLF Bernard Forsythe
GF George Forsythe
MAG Merritt Gibson
PH Peter Hope
SLH Sheila Hulford
AAM Angus McLean
JP John Pratt
RBS Richard Stern

TRIVIAL TIDBITS OF LOCAL NATURAL HISTORY

selected and compiled by Jim Wolford,
Site 1, Comp. 61, RR3, Wolfville, N.S. B0P-1X0

These reports are mostly from early July to late September, 1996.

My plea in the last issue for written reports bore a bit of fruit, I'm happy to report. This means that at least a few of you out there are reading, and presumably interested in, the esoteric meanderings of this contributor. Despite the long list of submitters, the number of people who give me written sightings is very very short. Thanks ever so much to those few. At the risk of sounding ungrateful, I'll refresh your memories (from two or three issues ago) to the effect that your contributions are easiest for me to file if they are written on small rectangular piece of note-paper, rather than as lists.

Special thanks go out to both Sheila Hulford and Twila Robar-DeCoste, who sent in quite a few interesting obser-

vations in response to my plea above. How many others are wishing to share their private sightings?

Finally, the quality of this column depends to a great extent upon what you, the readers/members, notice, find interesting or frightening, and take the trouble to report!

SKIES

Sept. 26-27 - our skies cleared just in time to show us a very beautiful **total lunar eclipse**, and a bonus was the planet **Saturn** just below the Moon (JW et al.).

FUNGI

July 18 - newspaper reported that some **blueberry** crops in Cumberland, Colchester, and Pictou Counties have been hit by a **blight**, in addition to having been affected by the **frost** of June 21-23 (HCH).

July 15 - a large cluster of **netted stinkhorns** (*Dictyophora duplicata*) found in a flower-bed mulched with bark chips, at Greenwood (TRD).

July 23 - lots of **puffballs** with purply-black centres (*Scleroderma* sp.) on a lawn on Acadia Univ. campus (perhaps *S. geaster*, "earthstar puffball"?)(JW).

July - Sheila Hulford of Greenwood sent in the following list of fungi seen (the common and Latinized names come from the Peterson and Audubon Society field guides to mushrooms):

July 22 - in woods at Tremont:

sickener - *Russula emetica*
summer redcap - *Boletus fraternus*
goldstalk - *Boletus ornatipes*

July 22 - on lawn at Tremont:

aspen scaber stalk - *Leccinum insigne*

July 29-30 - on lawn at Tremont:

magenta coral -*Clavaria zollingeri*
white worm coral - *Clavaria vermicularis*
blusher - *Amanita rubescens*
yellow waxycap - *Hygrocybe flavescens*
stinking brittlegill - *Russula fragrantissima*
purple-ochre tallowgill - *Laccaria ochropurpurea*
shellfish brittlegill - *Russula xerampelina*
pig-ear cup - *Peziza badioconfusa*
hen-of-the-woods - *Grifolia frondosa*
yellow wart - *Amanita flavoconia*

FLOWERING PLANTS

late May or early June - in the floating bog on Methal's Reservoir, a check on the various plants revealed that the **frost** overnight on May 25-26, and

the near-frost during the daytime of the 25th, "burned off" the blooms of both **arethusa orchids** and **pitcher-plants** (BF).

July 22 to Aug. 4 - **helleborine orchids** seen on a lawn-edge, in woods, and in flower-borders at Tremont (SH).

July 30 - as noted last year, **water-hemlock** in bloom and very abundant east of Grand Pré Historic Park (JW).

Aug. 9 - **Indian pipe** seen under conifers at Tremont (SH).

INSECTS - HOMOPTERA

Aug. 11 - a **cicada** found sitting on a post in a garden, at Tremont (SH).

INSECTS - COLEOPTERA

June 21 (approx.) to July 10 - **fireflies** or lightning-bugs (really beetles) seen at Murphy Lake, and the numbers were quite variable from night to night (MT,GR).

July 11 - **fireflies** seen at Tremont (SH).

July 23 - two adult **sawyer beetles**? (long-horned wood-boring beetles) seen together on a sunny porch in New Minas -- they were a male and a female (JW).

July 29 - a **two-spot ladybird beetle** seen in Wolfville -- this is not a striking observation, but I use it to remind readers that the Canadian Nature Federation is collecting records of all species across Canada, and a colorful identification brochure can be gotten from CNF by phoning 1-800-267-4088 (during Ottawa business-hours) (JW).

Aug. 11 - a pretty **long-horned wood-boring beetle**, 2 cm. long with orange wing-covers, was found dying in Wolfville near some diseased maples (JT) -- this was identified tentatively as *Leptura emarginata* by two members of Acadia Biology's "beetle team" (KP,CSm).

INSECTS - LEPIDOPTERA

March 30 - from another club's newsletter, I lifted a report of a very early adult **painted lady** butterfly (species not specified) seen in Halifax? (PC,HFN).

July 3 - a **gray hairstreak** butterfly found on a kitchen door at Tremont (SH).

mid to late July - **northern eyed brown** butterflies seen basking on house siding in sunshine (TRD).

Aug. 18 - a male **black swallowtail** butterfly feeding mostly on red clover at the east end of Long Island, Grand Pré (JT).

June 20 - an adult male **polyphemus** moth seen at a back-door light, in late evening, at Aylesford (TRD).

end of June - an adult male **polyphemus** at lights on several late evenings, at Donnellan's Brook on the Bay of Fundy (TRD).

July 5 - an adult female **polyphemus** in Truro's Victoria Park (TRD).

July 5 - newspaper report of an outbreak of **gypsy moth** caterpillars at Kejimkujik Park, and lots of the normally quite rare **black-billed cuckoos** there in response and perhaps nesting (both N. Am. cuckoos are notorious enemies of hairy caterpillars (BH,HCH).

early July and July 9 - two different adult **luna moths** seen near or at Aylesford (TRD).

July 26 - a large male **luna moth**, seasonally quite late, found on the side of a house in Wolfville -- it was then moved to a more secluded spot in a thick bush -- this moth has one large bird-bill-shaped nick out of one wing (JT).

Aug. 5- an unidentified red-and-black **underwing moth** found in Wolfville (JT).

Aug. 17 & 19 - a different kind, but unidentifiable, of **underwing moth**, this one small and orange-and-brown, found in Wolfville (JT).

INSECTS - DIPTERA

Aug. 31 - as noted last year at this time, oodles of adult **crane flies** on various lawns in the Wolfville/Grand Pré area (JW).

Aug, 16 - a spherical **gall** on a **goldenrod** stem, caused by a **tephritid fly**, found in Wolfville (JT).

FISHES

Sept. 9 - from a whale-watching boat, north of Long Island, Digby County, a **basking shark** was seen slowly swimming at the surface --- all we could see was the large triangular dorsal fin, and no estimate of the shark's length was possible (DM,PM,RM,JW,LW, et al.). (Some members might recall Gary Boates' account of his memorable encounter with a 6-metre basking shark just offshore from Kingsport on Sept. 5, 1987.)

July 30 - two **sturgeons**, about 0.85 and 0.5 metres long respectively, seen along the Gaspereau River west of the White Rock Bridge (CS).

July 1 - two small **American eel** youngsters seen in a stream at Carter's Beach (near Summerville Beach)(JW).

July 6 - several tiny **American eel** youngsters seen in Black Hole Brook, east of Baxter's Harbour (JW).

AMPHIBIANS

week of Sept. 8-14 - many tiny (2.5-cm.) **red efts** (juvenile red-spotted newts), still with external gills, in an artificial pond in Wolfville (DT) .(Look back in previous TRIVIA columns for other reports from DT concerning tiny red efts apparently coming out of that pond to begin their temporary sojourn on land at this time of year).

Sept. 16 - an **American toad** trilling in Kentville after Hurricane Hortense moved on -- also some **spring peepers** were heard (but the latter is not particularly unusual at this time of year)(TH).

REPTILES

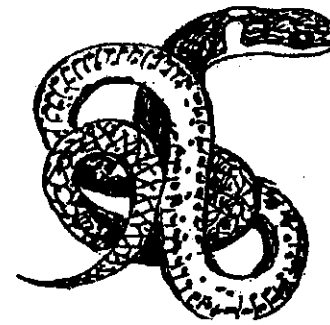
Sept. 1 - a 2-m.-long **leatherback sea turtle** was found dead on the shore at Marriott's Cove near Chester -- it had probably been dead for a week or more (DL).

late June to late July - five "new" adult **Blanding's turtles** trapped and equipped with radio-transmitters in the area of McGowan Lake (just east of Keji' Park) (TH,JM).

Sept. 26 - one clutch of nine eggs of **Blanding's turtles** was hatching in Keji' Park -- - by the end of Sept., many of the 22 monitored nests were flooded, thanks to this very wet autumn (TH,LS).

Aug. 31 - an **eastern painted turtle**, of 17.5-cm. shell-length, was found on a driveway in New Minas --- this turtle was released in the lily pond at the Kentville Agricultural Research Station (JP).

June - a **northern ringneck snake**, about 32 cm. long, was found on the north shore of



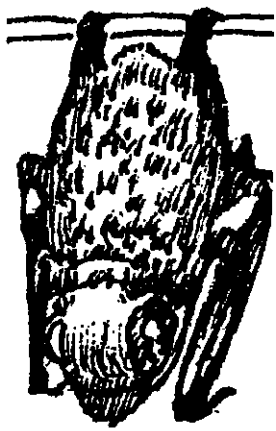
Long Tusket Lake, between Bear River and Riverdale (AG).

second half of August - another **northern ringneck snake**, of about the same length as that above, was found as a road-kill on the Gospel Woods Road (about 2 km. west of The Lookoff)(AG). (John Gilhen's *Amphibians and Reptiles of Nova Scotia* (1984) shows no records for our North Mountain area; therefore this could be a significant find.)

MAMMALS

Sept. 23 - a **hoary bat** seen flying at 7 a.m. on Bon Portage Island (FS).

Sept. 27 - two **hoary bats** seen flying late on a moonlit drizzly night on Bon Portage Island (FS).



July 21 - a nest with at least two half-grown young **meadow jumping mice** in a manure pile along Ross Creek Road, North Mountain (nw. of The Lookoff)(GC).

Aug. 10 - a **groundhog or woodchuck** seen sitting up outside a patch of raspberry canes and weeds at Tremont (SH).

July 19 - two half-grown young **skunks** seen at Grand Pre (BBT); also in the same week an adult skunk and two youngsters were seen on a lawn in east Wolfville (David McKennon reported to BBT).

Aug. 15 - an adult **skunk** had its tail high in the air and its feet stomping on a Wolfville lawn at 7:30 a.m. -- also someone nearby had them under his deck this summer, live-trapped two, and released them at Black River -- his live- trapping first caught a baby **raccoon**, which was noisy, and then two adult raccoons somehow liberated the youngster! (JT).

Aug. 17 - two **raccoons** seen in early evening at Avonport (BBT).

Sept. 27 - a regular local newspaper column reported that **skunks** are in decline -- this was on the basis of unof-

ficial observations of various outdoorsy people (EC,KA). (My own observations of both living and especially road-killed skunks since late winter have me believing that they are still very common.)

June 23 - a **red fox** road-killed on the highway between Greenwich Corner and Port Williams (HKT).

late June - a **silver fox** seen on Aylesford Road, Aylesford East (TRD).

Aug. 20 to Sept. 15 - eight different reports of **harbour porpoises** being seen in the southernmost Minas Basin just north of Wolfville --- two of these reports were of possibly pilot whales, but only porpoises were seen by the others, including myself --- as many as seven porpoises were seen, more often four or two --- possibly they were going in and out of the mouth of the Cornwallis River on a tidal rhythm? (DHS, BBT, DT, TT,DW,JW).

Sept. 9 - 10 or 12 of the highly endangered **North Atlantic right whales** seen about 10-11 miles north of Long Island, Digby County --- one of these whales repeatedly breached for several whale-watching boats; it also lob-tailed a couple of times and once rolled to show a flipper --- however, no fish-eating species of large whales (minke, finback, humpback) were seen, and some of whale-watching companies are suspecting that too many herring are being fished in the Bay of Fundy (DM,PM,RM,LW,JW).

The following letter, dated Aug. 19, 1996, from Mrs. Edith Zillig, Scotch Village, Hants County, was sent to Jim Wolford.

Dear Sir:

I have a farm in Hants County with sheep (125 ewes) and waterfowl (90 geese and 100 ducks for the Xmas market). On the south side of the Kennetcook River, on the place of the late Harry Salter, Scotch Village, is an **eagle** nest for many years. Most years one or two young eagles were raised in that nest. This year there were three. We never had any problems with the eagles taking some livestock; however, this summer the adult eagle(s?) took seven of our goose flock in two weeks. It/they did not take any ducks, but preferred the live geese, which may weigh 6-8 pounds at this time of the year.

In Robie Tuft's book, Birds of Nova Scotia, we read that bald eagles do not take live animals; only two cases were known. This statement of Mr. Tufts is not correct, as we experienced this summer. A neighbor on our side of the river lost three call ducks, and another person lost her pet rabbit to the eagles.

Thinking this information will be of interest for you,
Yours very truly,
Mrs. Edith Zillig

TRIVIA CONTRIBUTORS

KA - The (Kentville) Advertiser
EC - Ed Coleman
GC - Gordon Callon
PC - Pat Chalmers
TRD - Twila Robar-DeCoste
BF - Bernard Forsythe
AG - Alf Gerritse
BH - Barbara Hinds
HCH - Halifax Chronicle-Herald
SH - Sheila Hulford
TH - Tom Herman
DL - Doug Linzey
DM - Debbie Moore
JM - Jeffie McNeil
PM - Pat Martin
RM - Rhea March
HFN - Halifax Field Naturalists Newsletter
JP - John Pickwell
KP - Karen Potter
GR - Gina Ripley
DHS - David Hope-Simpson
FS - Fred Scott
CS - Clarence Stevens
CSm - Chad Smith
LS - Lorraine Standing
BBT - Brenda & Bill Thexton
DT - Dianne Thorpe
HKT - Heather & Kimberly Thorpe
JT - Jean Timpa
TT - Trevor Thorpe
MT - Miriam Tams
DW - Denise Whynot
JW - Jim Wolford
LW - Liz Ward

SUMMER 1996 WEATHER SUMMARY

Larry Bogan

Monthly Averages of Weather Statistics
for Kentville Agriculture Research Centre
June - August 1996

	Mean Temperature (°C)	Rainfall (mm)	Sunshine (hours)
June	16.3	46.2	211
35 year mean	16.0	70.5	212
July	19.0	161	176
35 year mean	19.2	71.2	231
August	19.3	25.4	205
35 year mean	18.5	95.9	217
PERIOD	**18.2**	**233**	**592**
35 year mean	**17.9**	**238**	**660**

What an average summer we have had! The overall mean temperature, rainfall and bright sunshine hours were very close to the 35 year averages. If any of the three indicators were to be considered off the norm it would be sunshine hours We received only 90% of what is to be expected. And, when compared with the average over the last five years (691 hours) it was 86% of that average. The averages for both temperature and sunshine during the last five years are higher than those for the last 35 years.

The most variable quantity for the summer was rainfall. June and August were dry but July was wet. June got 2/3, July 2-1/4, and August 1/4 of the expected rainfall. July's rainfall completely made up for the deficit during for the other two months.

In June, 21 mm of the 46 mm total rainfall for that month occurred on the 3rd and 4th. The greatest single rainfall in August occurred on the 1st and contributed half of all the rain in that month. In the dry months, there were long

August occurred on the 1st and contributed half of all the rain in that month. In the dry months, there were long periods of no significant rain. In the wet month of July, 71 mm of rain fell on the 15th; that is the average for the that month of the year and was equal the total that fell in June and August together.

Remnants of Hurricanes Edouard and Hortense dropped their rain on us in September, and we have had generally rainy weather all month. I wonder if the total rainfall this month will equal the total rainfall in June, July and August? Read the next BNS Newsletter for those results.

WHAT'S IN THE SKY?
by Roy Bishop

Jupiter
is the bright, star-like object in the southwestern evening sky. It sets by late evening in October, by mid-evening in November, and becomes lost in the evening twilight by year's end. Up to four of its large satellites can be seen in binoculars, provided the binoculars are held steady by means of a tripod or other support.

Venus
is the very-bright, star-like object in the southeastern pre-dawn sky. Through November and December, Venus drops lower into the morning twilight.

Saturn
is the fairly bright, star-like object in the eastern sky as darkness falls in October. By December it will have moved around to lie high in the south at the same time of evening. A telescope will reveal Saturn's rings, which presently are tilted only 3 or 4 degrees from being edge-on to Earth.

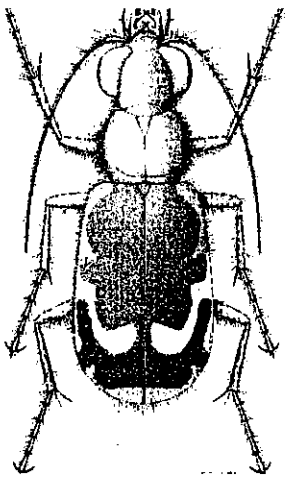
Meteors
One of the best meteor showers of the year, the Geminids, takes place on the evening of Friday, December 13. This year is an especially good year to see these meteors because moonlight does not interfere. If the sky is clear, pick an observing site in the country away from streetlights and farm yard lights. Meteors are best seen with the unaided eyes. A lawn chair, thick sleeping bag, pillow, warm hat, and a thermos of hot chocolate add considerably to one's enjoyment of this late autumn meteor shower. The Geminid meteors radiate from

the eastern part of the late evening sky (from the constellation Gemini, after which they are named), but may be seen in any part of the sky. Their numbers will likely increase after midnight although stronger peaks in the shower may occur at any time on that night. The Geminid meteors are fragments of an old comet. These small bits of dust and rock strike Earth's upper atmosphere at a speed of about 35 km/s (126,000 km/h), and part of their kinetic energy is converted into a brief streak of light. If December 13 is cloudy, it is worth looking for Gemininds on the evenings of December 12 or 14.

Shortest Day, Earliest Sunset, Latest Sunrise

The shortest day of 1996, in terms of hours of daylight at the latitude of Nova Scotia, will be December 21, the day that the Sun lies furthest south in our sky and winter begins. However, because of the elliptical shape of Earth's orbit about the

Sun and the tilt of Earth's equator to its orbital plane. December 21 will not be the day of either the latest sunrise or the earliest sunset! The earliest sunset occurs first, on December 10, at 4:33 pm for Wolfville (sunrise is at 7:46 am). The latest sunrise does not occur until January 1, 1997, at 7:58 am in Wolfville (sunset is then at 4:45 pm). On the shortest day, these times are 7:54 am and 4:36 pm. Thus the hours of daylight on December 10, 21, and January I are, respectively: 8h 47m, 8h 42m, 8h 47 m.



Sources for Local Natural History
(compiled by Blomidon Naturalists Society)

Information	Source	Office	Home
Rocks & Fossils	Geology Dept. Acadia U.	542-2201	
Fish	NS Dept. of Natural Resources	679-6091	
Flora - General	Ruth Newell	542-2201	542-2095
Fungi	Darryl Grund	542-2201	542-9214
	Nancy Nickerson	679-5333	542-9332
Lichens	Karen Casselman	424-7370	633-2837
Seaweeds	Darryl Grund	542-2201	542-9214
Mosses & Ferns	John Pickwell		681-8281
Birds - General	Bernard Forsythe		542-2427
	Richard Stern	678-4742	678-1975
	Gordon & Judy Tufts		542-7800
	Jim Wolford	542-2201	542-7650
	Jean Timpa		542-5678
Hawks & Owls	Bernard Forsythe		542-2427
Falcons & Eagles	Peter Austin-Smith		542-2109
Mammals	Tom Herman	542-2201	678-0383
Amphibians & Reptiles	Sherman Bleakney		542-3604
	Jim Wolford	542-2201	542-7650
Seashore & Marine Life	Sherman Bleakney		542-3604
	Jim Wolford	542-2201	542-7650
	Michael Brylinsky	542-2201	582-7954
Indian Prehistory & Archeology	Ellis Gertridge		542-2816
	James Legge		542-3530
Astronomy	Roy Bishop		542-3992
	Sherman Williams	542-3598	542-5104
	Larry Bogan		678-0446

Blomidon Naturalists Society
1996 Membership Fees

Each member receives four issues yearly of the BNS Newletter. The Blomidon Naturalists Society is a registered charity. Receipts for income tax purposes will be issued for all donations. The membership fee itself is not tax-deductible. Members may also join the Federation of Nova Scotia Naturalists through the BNS and will receive their quarterly newsletter; the membership is not tax-deductible.

Please enclose a cheque or money order payable to "Blomidon Naturalists Society" and forward to:

Harold Forsyth
RR #2, Wolfville, NS. B0P 1X0

Number	Membership Classification	Price	Total
_____	Individual Adult	$12.00	$ _____
_____	Family	$15.00	$ _____
_____	Individual Junior (under 16 years)	$1.00	$ _____
_____	Federation of NS Naturalists Membership	$5.00	$ _____
	Tax-deductible donation	_____	$ _____
		Total	$ _____

Name: _____

Address: _____

_____ Postal Code: _____

Phone: _____

Type of membership — Individual Adult ☐ Individual Junior ☐ Family ☐ (Number of people) ☐

Join the Federation of NS Naturalists? Yes ☐ No ☐

Is this is a gift subscription? Yes ☐ No ☐

October 1996						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12 new moon
13	14	15	16	17	18	19
20	21	22	23	24	25	26 full moon
27	28	29	30	31		

November 1996						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11 new moon	12	13	14	15	16
17	18 BNS mtg. 7:30 p.m.	19	20	21	22	23
24	25 full moon	26	27	28	29	30

December 1996						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10 new moon	11	12	13 Geminids	14
15	16 BNS mtg. 7:30 p.m.	17	18	19	20	21 WINTER begins 10:06 a.m.
22	23	24 full moon	25 s.claus arrives	26	27	28
29	30	31 happy new year!				